FILE NOTATIONS

Entered in N I D File ✓
Entered On S R Sheet ✓
Location Map Pinned ✓
Card Indexed ✓
I W R for State or Fee Land

Checked by Chief K P B
Copy N I D to Field Office 2
Approval Letter 1
Disapproval Letter

COMPLETION DATA:

Date Well Completed 11-28-61
OW WW TA
GW OS PA ✓

Location Inspected
Bond released
State of Fee Land

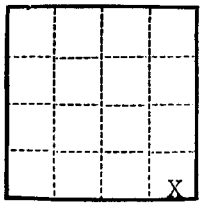
LOGS FILED

Driller's Log 12-26-61
Electric Logs (No.) 2

E I E-I ✓ GR GR-N Micro
Lat Mi-L Sonic ✓ Others

Copy

Form 9-331a
(Feb. 1951)



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R358.4.
Approval expires 12-31-60.

Land Office Salt Lake City

Lease No. U-020055-B

Unit

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	X	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

September 11, 19 61

Crescent Creek
Well No. 1-X is located 390 ft. from {N/S} line and 518 ft. from {E/W} line of sec. 27

SE/4 SE/4 Sec. 27 (¼ Sec. and Sec. No.) T31S (Twp.) R11E (Range) SLM (Meridian)

Wildcat (Field) Garfield County (County or Subdivision) Utah (State or Territory)

Kelly Bushing
The elevation of the ~~derrick floor~~ above sea level is 5857 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Est. Formation Tops: Hermosa 4200', Paradox 5100', Leadville 6000'.

1. Cement 8-5/8" 24# casing at 440'± with 230 sacks treated with 3% $CaCl_2$.
2. Test B.O.P. and casing with 1000 psi prior to drilling out casing shoe.
3. Drill 7-7/8" and core 7-3/4" hole as directed to total depth, 6000' ±.
4. Test all significant shows. Run logs as directed.
5. Complete with 5-1/2" casing and 2-3/8" tubing if required.

Note: Rig skidded 18'W and 10'S of well Crescent Creek #1 to drill well Crescent Creek #1-X. Confirming conversation - Eaton and Russel, 9-8-61.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Kern County Land Co.

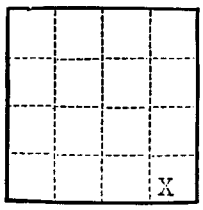
Address 415 Petroleum Club Plaza
3535 E. 30th Street
Farmington, New Mexico

Original Signed By
By T. A. Eaton

Title District Engineer

GPO 862040

Form 9-331a
(Feb. 1951)



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R358.4.
Approval expires 12-31-60.

Land Office Salt Lake City
Lease No. U-020055-B
Unit

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

September 18, 1961

Crescent Creek
Well No. 1-X is located 390 ft. from {N/S} line and 518 ft. from {E/W} line of sec. 27

SE/4 SE/4 Sec. 27 (¼ Sec. and Sec. No.) T31S (Twp.) R11E (Range) SLM (Meridian)

Wildcat (Field) Garfield County (County or Subdivision) Utah (State or Territory)

The elevation of the ~~derrick floor~~ Kelly Bushing above sea level is 5857 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Ran and cemented 423' of 8-5/8" 24# J-55 casing at 437' KB with 230 sacks neat cement treated with 3% $CaCl_2$. Had meager cement returns to surface. Plug down at 1:50 p.m., 9-13-61. Ran 3/4" pipe outside casing and circulated up good cement from 40' KB. Did 23 sack top job at 40' KB, got good cement returns. Completed job at 4:00 p.m., 9-13-61. Tested B.O.E. and casing to 1000 psi, tested okay.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Kern County Land Co.

Address 415 Petroleum Plaza
3535 E. 30th Street
Farmington, New Mexico

Original Signed By
By C. T. Enton

Title District Engineer

GPO 862040

September 22, 1961

Kern County Land Co.
415 Petroleum Club Plaza
3535 East 30th Street
Farmington, New Mexico

Attn: C. F. Eaton, Dist. Eng.

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Crescent Creek #1-X, which is to be located 390 feet from the south line and 518 feet from the east line of Section 27, Township 31 South, Range 11 East, SLBM, Garfield County, Utah.

Please be advised that insofar as this office is concerned approval to drill this off-set to Well No. Crescent Creek #1 is hereby granted.

This approval terminates within 90 days if the above mentioned well has not been spudded in within said period.

Very truly yours,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT,
EXECUTIVE SECRETARY

CBF:swg
cc: Don F. Russell, Dist. Eng.
U. S. Geological Survey

H. L. Coonts - OCSC, Moab

Form 9-331a
(Feb. 1951)

Budget Bureau No. 42-R358.4.
Approval expires 12-31-60.

Land Office Salt Lake City

Lease No. U-020055-B

Unit

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	X		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

November 27, 19 61

Crescent Creek
Well No. #1-X is located 390 ft. from {XXX S} line and 518 ft. from {E XXX} line of sec. 27

SE/4 SE/4 Sec. 27 (¼ Sec. and Sec. No.) T31S (Twp.) R11E (Range) SLM (Meridian)

Wildcat (Field) Garfield County (County or Subdivision) Utah (State or Territory)

kelly bushing
The elevation of the ~~derrick floor~~ above sea level is 5857 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

(Confirming telephone conversation, Eaton - Russell, 11-27-61.)

T.D. 6683'. 8-5/8" at 437'. Formation Tops: Navajo-947', Kayenta-1630', Wingate-1980', Chinle-2259', White Rim-3070', Organ Rock-3414', Cedar Mesa-3702', Hermosa-4843', Desert Creek-5652', Molas-6298', Mississippian-6508'.

1. Plug with 31 sacks cement at 6500'.
2. Plug with 20 sacks cement at 4800'.
3. Plug with 20 sacks cement at 2000'.
4. Plug with 40 sacks cement at 467'.
5. Plug with 10 sacks cement at surface.
6. Install marker and cleanup location.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company KERN COUNTY LAND COMPANY

Address 415 Petroleum Club Plaza

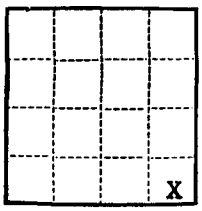
Farmington, New Mexico

Original Signed By
By C. T. Eaton

Title District Engineer

GPO 862040

Form 9-331a
(Feb. 1951)



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R358.4.
Approval expires 12-31-60.

Land Office Salt Lake City

Lease No. U-020055-B

Unit

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	X
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

November 29, 1961

Crescent Creek
Well No. 1-X is located 390 ft. from {N/S} line and 518 ft. from {E/W} line of sec. 27

SE/4 SE/4 Sec. 27 (¼ Sec. and Sec. No.) T31S (Twp.) R11E (Range) SLM (Meridian)

Wildcat (Field) Garfield County (County or Subdivision) Utah (State or Territory)

The elevation of the ~~derrick floor~~ kelly bushing above sea level is 5857 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

T.D. 6683'. 8-5/8" at 437'.

1. Plugged 6500'-6390' with 31 sacks cement.
2. Plugged 4800'-4730' with 20 sacks cement.
3. Plugged 2000'-1930' with 20 sacks cement.
4. Plugged 467'-327' with 40 sacks cement.
5. Plugged 30'-14' with 10 sacks cement and installed marker.
6. Left all unplugged portions of hole filled with drilling mud.
7. Well abandoned 11-28-61.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company KERN COUNTY LAND COMPANY

Address 415 Petroleum Club Plaza

Farmington, New Mexico

Original Signed By
By C. T. Eaton

Title District Engineer

GPO 862040

Form 9-330

Budget Bureau No. 42-R355.4.
Approval expires 12-31-60.

U. S. LAND OFFICE Salt Lake City

SERIAL NUMBER U-020055-B

LEASE OR PERMIT TO PROSPECT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOCATE WELL CORRECTLY

LOG OF OIL OR GAS WELL

Company Kern County Land Company Address 415 Petroleum Club Plaza, Farmington, New Mexico

Lessor or Tract Crescent Creek Field Wildcat State Utah

Well No. 1-X Sec. 27 T. 31S R. 11E Meridian SLM County Garfield

Location 390 ft. N. of S Line and 518 ft. W. of E Line of Sec. 27 Elevation 5857 (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Original Signed By

Signed C. F. Eaton

Date 12-19-61 Title District Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling 9-12, 19 61 Finished drilling 11-25, 19 61

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from ____ to ____ No. 4, from ____ to ____

No. 2, from ____ to ____ No. 5, from ____ to ____

No. 3, from ____ to ____ No. 6, from ____ to ____

IMPORTANT WATER SANDS

No. 1, from ____ to ____ No. 3, from ____ to ____

No. 2, from ____ to ____ No. 4, from ____ to ____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose
8-5/8"	24#	8	[illegible]	423	[illegible]				

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	437	253	Plug	10.2	29.8 Barrels

FOLD MARK

PLUGS AND ADAPTERS

Heaving plug—Material ____ Length ____ Depth set ____

Adapters—Material ____ Size ____

SHOOTING RECORD

FOLD | MA

PLUGS AND ADAPTERS

Heaving plug—Material ..... Length ..... Depth set .....

Adapters—Material ..... Size .....

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out

TOOLS USED

Rotary tools were used from 0 feet to 6683 feet, and from ..... feet to ..... feet

Cable tools were used from ..... feet to ..... feet, and from ..... feet to ..... feet

DATES

12-19, 1961 Put to producing 11-28, 1961

The production for the first 24 hours was P&A barrels of fluid of which ..... % was oil; ..... % emulsion; ..... % water; and ..... % sediment.

Gravity, °Bé. .....

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. .....

EMPLOYEES

R. F. Chamberlain, Driller Albert Easley, Driller

J. E. Coleman, Driller ....., Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
			Navajo 947' Kayenta 1630' Wingate 1980' Chinle 2259' White Rim 3070' Organ Rock 3414' Cedar Mesa 3702' Hermosa 4843' Desert Creek 5652' Molas 6298' Mississippian 6508' Electric log tops.

FORMATION RECORD—Continued

[OVER]

16—43094-4

Budget Bureau No. 42-R356.4.
Approval expires 12-31-60.

U. S. Land Office Salt Lake City
Serial Number U-020055-B
Lease or Permit to Prospect

Form 9-330

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company Kern County Land Company Address 415 Petroleum Club Plaza, Farmington, New Mexico

Lessor or Tract Crescent Creek Field Wildcat State Utah

Well No. 1-X Sec. 27 T. 31S R. 11E Meridian SLM County Garfield

Location 330 ft. {N.} of S Line and 518 ft. {W.} of E Line of Sec. 27 Elevation 5827 (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed Original Signed by

Date 12-19-61 Title District Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling 9-12, 1961 Finished drilling 11-25, 1961

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from ______ to ______ No. 4, from ______ to ______

No. 2, from ______ to ______ No. 5, from ______ to ______

No. 3, from ______ to ______ No. 6, from ______ to ______

IMPORTANT WATER SANDS

No. 1, from ______ to ______ No. 3, from ______ to ______

No. 2, from ______ to ______ No. 4, from ______ to ______

CASING RECORD

See attached Drilling Log

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated From—	Perforated To—	Purpose

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	437	253	Plug	10.2	29.8 Barrels

PLUGS AND ADAPTERS

Heaving plug—Material ______ Length ______ Depth set ______

Adapters—Material ______ Size ______

SHOOTING RECORD

HISTORY OF OIL OR GAS WELL

16—43094-2 U. S. GOVERNMENT PRINTING OFFICE

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

FOLD | MARK

DRILLING LOG
KCL - SKELLY NORTH CRESCENT CREEK NO. 1

8-28-61 Moving in. Great Western Drilling Co. Rig #42.

8-29-61 Moving in and rigging up.

8-30-61 Digging cellar and conductor hole.

8-31-61 Cemented 20' of 20" culvert pipe as conductor at 24' with 25 sacks of cement. Rigging up.

9-1-61 Rigging up and mixing mud.

9-2-61 83' drilling 12-1/4" hole. Dug mousehole and rathole. Spudded at 7:00 p.m., 9-2-61.

9-3-61 353' drilling 12-1/4" hole. Lost circulation while drilling at 123'. Regained with 33 sacks of Fibertex, 3-1/4 hours. Deviation at 143'-1/4°, 204'-1/4°, 261'-3/4°, 332'-3/4°. Bit weight 8000#, 130 rpm, 100 psi p.p.

9-4-61 497' drilled 12-1/4" hole. 8-5/8" 24# J-55 S/C casing cemented at 489'. Ran and cemented 15 joints (475' net) 8-5/8" 24# J-55 S/C CF&I new casing at 489' with 265 sacks Ideal cement treated with 3% $CaCl_2$. Had good cement returns to surface. Did not bump plug. Cement in place at 9:50 p.m. Shoe joint equipped with 8-5/8" Halliburton regular cement guide shoe. Centralizers were placed in center of shoe joint and near collar of 2nd joint. The collars of the first three joints were tack welded and Halliburton weld compound was used on the threads of the shoe, 2nd and 3rd joints. Shut in casing with 200 psi p.p. for six hours. W.O.C. 2-1/6 hours. Deviation at 365'-1/4°, 410'-3/4°, 440'-1/4°, 470'-1/2°. Bit weight 10,000#-25,000#, rpm 130, 150-200 psi p.p. Bit #1 12-1/4" Security S-4 Reg. 0-428' 31 hours. Bit #2 12-1/4" Hughes OSC Reg. 428'-497' (69') 1-1/2 hours.

9-5-61 497' drilling cement. W.O.C. 23 hours. (Total - 25-1/6 hours) Nipple up. Tested B.O.P. and casing to 428' with 1600 psi p.p. for 15 min. O.K. Found top of cement in casing at 428'. Drilled out 50' of hard cement to 478'. Bit weight 10,000#, 45 rpm, 1850 psi p.p.

9-6-61 1026' drilled 7-7/8" hole in sand, shale and lime. Drilled out cement to 479'. Tested B.O.P. and casing with 1000 psi for 15 min. O.K. Drilled out 10' of cement, shoe, and first 300' of hole in 45 min. Pulled plugged bit #3 and reran, drilled to 1011'. Weight on bit #3 35,000#-50,000#, 130 rpm, 1750-1800 psi p.p. Ran bit #4 and reamed 65' on bottom and drilled to 1026'. Pulled plugged bit #4, bit pulled tight through shoe of casing. Ran five stands of drill collars in hole and hit bridge at 481' (later found to be top of shoe joint) and could not get to bottom, (could not get through casing shoe joint). Lost

(Continued)

Drilling Log - Continued

9-6-61 (Cont'd.) circulation while attempting to get to bottom. Deviation at 771'-3/4°, 1011'-1/2°. Bit #3 7-7/8" Security S-3 Jet 497'-1011' (514') 7-1/4 hours. Bit #4 7-7/8" Security S-4 Jet 1011'-1026' (15') 3/4 hours.

Engineer's Note:

After careful review of the 8-5/8" casing cement job, subsequent drilling operations and ditch samples it was apparent that the casing shoe joint was pounded off by the drill string. The strongest support of this conclusion was the fact that considerable drilling was done below the 8-5/8" surface casing with up to 50,000# weight on the bit, which placed the drill string in compression, allowing it to whip while drilling.

The drilling samples in the interval of 850'-890' included numerous steel shavings and abnormal amounts of cement (20-30%) which are indicative as to the drilling depth when the casing failure was affected.

9-7-61 1026' T.D. Ran in hole open ended with 7-7/8" reamer and attempted to get inside of casing shoe without success. Pushed the shoe joint to 543', with top at 515'. Pulled out and found a torn piece of casing, approx. 7" x 3", in reamer. Waiting on Schlumberger. Raining and roads bad.

9-8-61 1026' T.D. Ran Schlumberger Caliper log and found the bottom of the 8-5/8" casing string at 461' (orig. shoe at 489') and top of shoe joint at 515'. The hole interval formerly occupied by the shoe joint gauged from approximately 8-1/2" to 12-3/4" (originally drilled 12-1/4") indicating that a portion of the cement was still in place. Still raining and roads bad. B.J. cementing truck stuck on Hanksville road between running washes. Plan to abandon hole and skid rig. Rigging down.

9-9-61 1026' T.D. Plugged 491'-421' with 25 sacks cement. Cement in place at 11:55 a.m. Well abandoned on 9-9-61. Will install surface plug and marker upon completion of well No. 1-X.

DRILLING LOG

K.C.L. - SKELLY CRESCENT CREEK NO. 1-X

9-9-61 Rigged down on well #1. Rigging to skid rig. Dug cellar.

9-10-61 Skidded rig from well #1 to well #1-X twenty feet. Location of well #1-X is 390' from the South line and 518' from the East line of Section 27, T31S, R11E, Garfield County, Utah. Cemented 20' of 20" culvert pipe as conductor at 24' with 25 sacks of cement. Rigged up and drilling mousehole.

9-11-61 115 Drilling 12-1/4" hole in sand and shale. Finished drilling mousehole and rathole. Spudded at 12:00 noon, 9-11-61. Deviation at 80'-3/4°, 115'-1/2°.

9-12-61 383' Drilling 12-1/4" hole in sand and shale with lime. Deviation at 147'-1/2°, 175'-1/2°, 295'-1/2°, 352'-3/4°. Bit weight 6,000-12,000#, 120-130 rpm. Bit #1 12-1/4" Hughes OSC rerun 0-295' 21-1/2 hours.

9-13-61 479' Drilled 12-1/4" hole in sand, shale and silt. Finished surface hole at 9:45 a.m. 8-5/8" 24# J-55 S/C casing cemented at 437'. Ran and cemented 13 joints (423') 8-5/8" 24# J-55 CF&I new casing at 437' with 233 sacks Ideal Cement treated with 3% $CaCl_2$. Bumped plug with 400 psi p.p. Cement in place at 1:50 p.m. Had good mud returns throughout job with a trace of cement to the surface. Ran 3/4" pipe and found cement in annulus at 38'. Did 23 sack cement top job at 40'K.B. Completed top job at 4:00 p.m. The shoe joint was equipped with 8-5/8" Halliburton regular cement guide shoe. Centralizers were placed 10' above, over collar of 1st joint and 10' below the collar of the 2nd joint. The collars of the first three joints were tack welded and Halliburton weld compound was used on the threads of the shoe, 2nd, 3rd, and 4th joints. Shut in casing a total of four hours. W.O.C. a total of ten hours. Deviation at 383'-1/2°, 414'-3/4°, 442'-1/2°, 474'-1/2°. Bit weight 6,000-15,000#, 120-130 rpm. Bit #2 12-1/4" Security S-4 295'-479' (184') 13-1/4 hours.

9-14-61 844' Drilling 7-7/8" hole in sand and shale. W.O.C. seven hours. (Total 17 hours.) Landed casing. Nipplod up. Tested B.O.P. and casing with 1000 psi for 15 min., o.k. Found hard cement in casing at 425'. Drilled out cement in casing, had 4' hard cement below shoe and stringers to 479'. Emulsified mud with 43 barrels diesel oil, 86 gallons of Trimulso and 150# of Driscose. Deviation at 680'-1°, 745'-1°, 804'-1°, 844'-1°. Bit weight 1,000-6,000#, 38-45 rpm. Bit #3 7-7/8" Security S-3 Jet. 479'-804' (325') 6-3/4 hours.

9-15-61 1071' Drilled 7-7/8" hole in sand, shale with lime. Lost circulation while drilling at 1011' and 1071'. Lost about 420 barrels of mud. Got circulation with 80 sacks of fiber. M.W. 8.6#/gal., V. 53 sec. Deviation at 866'-1-1/2°, 904'-1-1/2°, 934'-1-1/4°, 964'-1-3/4°, 984'-1-3/4°. Bit weight 10,000-5,000#, 45-120 rpm. Bit #4 7-7/8" Security S-4 Jet 804'-964' (160') 11 hours. Lost circ. time - 4-1/4 hours.

(Continued)

(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

9-16-61 1552' drilling 7-7/8" hole in sand, shale with lime. M.W. 8.8-8.9#/gal., V. 37-45 sec., W.L. 4.0-5.6 cc, F.C. 1/32". Deviation at 1094'-1-3/4°, 1171'-1-3/4°, 1234'-1-3/4°, 1297'-1-3/4°, 1358'-1-3/4°, 1421'-2°, 1481'-1-3/4°, 1542'-2°, Bit weight 10,000-4,000#, 65-130 rpm. Bit #5 7-7/8" Security S-4 Jet 964'-1072' (108') 4-1/4 hours. Bit #6 7-7/8" Security S-4 Jet 1072'-1496' (424') 11-1/4 hours. Lost circ. time - three hours.

9-17-61 1731' drilling 7-7/8" hole in sand and shale. Lost circulation at 1610'-1632', going in hole at 1610' and drilling at 1632'. Mixed up 2-1/2 pits of lost circulation material. Lost approximately 300 barrels of mud before getting circulation. M.W. 8.4-8.9#/gal., V. 36-62 sec., W.L. 5.2-5.4 cc, F.C. 1/32". Deviation at 1568'-1-3/4°, 1665'-1-1/2°, 1729'-1-1/2°. Bit weight 4,000-10,000#, 60-130 rpm. Bit #7 7-7/8" Hughes OSC-1G Jet 1496'-1610' (114') 8-1/2 hours. Lost circ. time - seven hours.

9-18-61 2027' drilling 7-7/8" hole in sand, shale and silt. M.W. 8.8-8.9#/Gal., V. 49-59 sec., W.L. 5.6-6.6 cc, F.C. 1/32"-2/32". Deviation at 1793'-1-1/4°, 1822'-1-1/4°, 1853'-1-1/4°, 1885'-1°, 1910'-1-1/2°, 1980'-1-1/4°. Bit weight 8,000-20,000#, 85-130 rpm. Bit #8 7-7/8" Hughes OSC-1G Jet 1610'-1844' (234') 15-1/4 hours.

9-19-61 2364' drilling 7-7/8" hole in sand and silt. M.W. 8.9-9.5#/gal., V. 48-52 sec., W.L. 6.6-12.3 cc, F.C. 1/32"-2/32". Deviation at 2040'-1-1/4°, 2120'-1-1/4°, 2198'-1-1/4°, 2261'-1-1/2°, 2292'-1-3/4°, 2322'-2°, 2353'-2-1/2°. Replaced engine clutch, two hours. Bit weight 20,000-5,000#, 120-130 rpm. Bit #9 7-7/8" Smith DT2G jet 1844'-2198' (354') 17-1/4 hours.

9-20-61 2509' drilled 7-7/8" hole in sand and shale. Lost circulation while running into hole at 2509'. Lost approximately 200 barrels of mud before regaining circulation. M.W. 8.8-9.2#/gal., V. 40-52 sec., W.L. 6-7 cc., F.C. 1/32"-2/32". Deviation at 2365'-2-1/4°, 2446'-2-1/4°, 2509'-2-3/4°. Bit weight 10,000-15,000#, 100-85 rpm. Bit #10 7-7/8" Smith DT2G Jet 2198'-2365' (167') 6-1/2 hours. Bit #11 7-7/8" Security S-4 Jet 2365'-2509' (144') eight hours. Installed new wash pipe and packed swivel, 1-1/4 hours. Lost Circ. time - 7-1/2 hours.

9-21-61 2547' drilling 7-7/8" hole in sand. Lost circulation while drilling at 2546'. Lost approximately 300 barrels before regaining circulation. Now carrying 30-40% lost circulation material and running in the hole with full hydromatic. M.W. 8.9-9.2#/gal., V. 39-60 sec., W.L. 6.2 cc, F.C. 2/32". Deviation at 2536'-2-3/4°. Bit weight 8,000-12,000#, 100-55 rpm. Bit #12 7-7/8" Hughes OWV Jet 2509'-2536' (27') 3-1/4 hours. Bit #13 7-7/8" SEC H8-Jet 2536'-2547' (11') 4-3/4 hours. Lost circ. time - 7-1/4 hours.

9-22-61 2682' drilling 7-7/8" hole in sand with shale and lime. M.W. 9-9.2#/gal., V. 48-73 sec., W.L. 4,8-6,8 cc, F.C. 1/32"-2/32".

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(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

9-22-61 (Cont'd.) Deviation at 2640'-3°, 2671'-3°, Tried to get totco down without success, too much lost circulation material in the mud, 1-1/4 hours. Bit weight 10,000-6,000#, 100 rpm. Bit #14 7-7/8" Security S-4 Reg. 2547'-2640' (93') 11-3/4 hours.

9-23-61 2786' drilling 7-7/8" hole in sand with shale and occasional streaks of dolomite. M.W. 9.1-9.2#/gal., V. 37-62 sec., W.L. 4.6-9 cc, F.C. 1/32-2/32". Deviation 2729'-3¾, 2760'-3°+. Bit weight 6,000-4,000#, 100 rpm. Bit #15 7-7/8" Security S-4 Reg. 2640'-2704' (64') 11-1/2 hours.

9-24-61 2833' drilled 7-7/8" hole in sand and shale. Lost circulation while pulling bit from 2833'. Lost approximately 300 barrels before regaining circulation. M.W. 9-9.2#/gal., V. 38-52 sec., W.L. 6-10 cc., F.C. 2/32". Deviation at 2785'-3-3/4", 2822'-4°+. Bit weight 3,000-6,000#, 100 rpm. Bit #16 7-7/8" Security S-4 Reg. 2704'-2833' (129') 28 hours. Lost circ. time - 7-3/4 hours.

9-25-61 2875' drilling 7-7/8" hole in sandy shale with chert. M.W. 8.8-9.1#/gal., V. 39-51 sec., W.L. 4-12 cc, F.C. 2/32". Deviation 2845'-4-1/4°. Bit weight 1,000-2,000#, 100 rpm.

9-26-61 2927' drilling 7-7/8" hole in sand and shale. M.W. 8.6-9#/gal., V. 41-44 sec., W.L. 4-6.2 cc, F.C. 2/32". Deviation at 2880'-4-1/4°, 2916'-4-1/4°, 2926'-3-3/4°. Bit weight 1,000#, 100 rpm. Bit #17 7-7/8" Security S-3 Jet 2833'-2926' (93') 47-3/4 hours.

9-27-61 3032' drilling 7-7/8" hole in sand and shale. M.W. 8.8-9#/gal., V. 40-45 sec., W.L. 4.4-6.2 cc., F.C. 1/32"-2/32". Deviation at 2940'-3-3/4°, 2979'-3-3/4°+. Bit weight 4,000-6,000#, 100 rpm.

9-28-61 3107' drilling 7-7/8" hole in sand, shale with lime. Lost approximately 100 barrels of mud at 3073' and at 3107'. M.W. 8.8-9.1#/gal., V. 42-56 sec., W.L. 3.8-6 cc, F.C. 2/32". Deviation at 3040'-3-3/4°, 3073'-4°. Bit weight 6,000-15,000#, 100 rpm. Bit #18 7-7/8" Smith DT-Jet 2926'-3079' (153') 36-3/4 hours. Lost circ. time - 1-1/4 hours.

9-29-61 3180' drilling 7-7/8" hole in sand and shale. M.W. 8.7-9#/gal., V. 39-52 sec., W.L. 2.9-6 cc, F.C. 1/32"-2/32". Deviation at 3114'-3-3/4°, 3149'-4°, 3180'-4°. Bit weight 15,000-25,000#, 100-70 rpm. Bit #19 7-7/8" Hughes OWS-R 3079'-3143' (64') 13-1/2 hours.

9-30-61 3322' drilling 7-7/8" hole in sand and shale. M.W. 9-9.2#/gal., V. 40-49 sec., W.L. 3.8-6.2 cc, F.C. 1/32"-2/32". Deviation at 3212'-4°+, 3243'-4-1/4°, 3273'-4-3/4°, 3304'-4-1/2°+. Bit weight 30,000-20,000#, 70-100 rpm. Bit #20 7-7/8" Hughes OWS-R 3143'-3243' (100') 16-1/4 hours. Bit #21 7-7/8" Hughes W7R Jet 3243'-3315' (72') 10 hours.

10-1-61 3428' drilling 7-7/8" hole in sand. M.W. 8.9-9.1#/gal., V. 40-48 sec., W.L. 3.8-6 cc, F.C. 2/32". Deviation at 3336'-4-1/2°, 3367'-4-3/4°,

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(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

10-1-61 (Cont'd.) 3385'-4-3/4°. Bit weight 20,000-25,000#, 70 rpm. Bit #22 7-7/8" Hughes W7 Jet 3315'-3385' (70') 11-3/4 hours.

10-2-61 3550' drilling 7-7/8" hole in sand. M.W. 9-9.2 #/gal., V. 37-58 sec., W.L. 4-6 cc., F.C. 1/32"-2/32". Deviation at 3432'-5°, 3456'-5°, 3495'-4-3/4°, 3525'-4-1/2°. Bit weight 20,000-15,000#, 70 rpm. Bit #23 7-7/8" Security M4H Jet 3385'-3456' (71') 13 hours.

10-3-61 3680' drilling 7-7/8" hole in sand with shale. M.W. 9-9.3#/gal., V. 41-50 sec., W.L. 4.2-6 cc., F.C. 2/32". Deviation at 3552'-4-3/4°, 3588'-4-1/2°+, 3619'-4-3/4°, 3649'-4-1/2°. Bit weight 20,000-25,000#, 70 rpm. Bit #24 7-7/8" Security M4H Reg. 3456'-3552' (96') 15 hours. Bit #25 7-7/8" Hughes OWC Reg. 3552'-3660' (108') 13 hours.

10-4-61 3748' drilled 7-7/8" hole in sand and shale. Lost circulation while drilling at 3737'. Mixed up L.C. material, could not get circulation. Pulled out of hole. Mixed up L.C. material in pits, ran in hole to 1200' and pumped in lost circulation material. Got about 25 barrels of water returns after pumping in approximately 250 barrels of mud. Pulled out to mix additional mud. Ran to three stands off bottom and got fresh water returns for 15 min., then mud. Drilled out five foot bridge 15' off bottom and drilled to 3748'. Lost some mud while drilling to 3748'. Decided to pull out and run lost circulation tool (Gamma Ray Tracer Log). Lost approximately 500 barrels total of mud during operations. M.W. 8.9-9.1#/gal., V. 43-44 sec., W.L. 4-6 cc., F.C. 2/32". Deviation at 3680'-4-1/4°, 3711'-4-1/4°, 3737'-4-1/4°+. Bit weight 25,000#, 70 rpm. Bit #26 7-7/8" Security M4H Jet 3660'-3737' (77') 8 hours. Lost circ. time - 15-1/2 hours.

10-5-61 3748' Ran McCullough lost circulation tool (Gamma Ray Tracer Log) and checked all depths of previously reported lost circulations. Hole was found to be taking fluid at only 1010'. At other depths in the hole there was no apparent fluid movement and no evidence of radiation material going away into the formation. With 4-1/2" D.P. hanging at 990' spotted 50 sacks of cement treated with 3% $CaCl_2$, and 25# of gel flake. Pulled out of cement. Filled hole. Closed B.O.P. and squeezed hole to maximum pressure of 400 psi in nine stages. Pressure bled to 0 psi after one hour and twelve minutes. Completed job at 5:45 p.m. Pulled out of hole. Filled hole and mud stayed at the surface. Started drilling out cement at 10:00 p.m. Drilled out cement bridge at 983' and very soft and medium hard cement to 1058'. Circulated mud. Company time - 24 hours.

10-6-61 3798' drilled 7-7/8" hole in sand. Circulated to bottom by stands. Installed rubbers on D.P. When six stands off bottom the mud fell 100' down hole when making a connection. Got returns to surface when getting to bottom. Drilled to 3798' and lost full returns. Pulled out of hole. Ran open end D.P. with diesel oil socked sack on the end of the D.P. Hit fluid at about 300' (sack burst). Ran to 1081', pumped in 75 barrels of L.C. material treated mud. Got fresh water returns in five minutes with pump running 1/2 speed. Fluid in hole dropped when the pump was shut down. Got returns in three minutes, (all water) while pumping with full pump. Fluid level dropped while mixing

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(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

10-8-61 (Cont'd.) at 1150 psi. Kept a lesser amount of pressure on the hole for three hours. The total fluid displaced was 2-1/2 barrels. Pressure bled from 900 psi to 0 psi in 1-1/2 hours. Ran bit and hit soft cement at 412' (shoe at 437'). Drilled out soft cement to 427'. Cement plug held 3000# weight. Pressure tested casing to 825 psi. Pressure dropped to 600 psi in five minutes, to 380 psi in a total of 35 minutes and to 0 psi in a total of one hour and ten minutes. This was obviously the same rate of pressure bleed-off experience on previous squeezing operations. Since no surface leaks could be found, it was concluded that the surface had a small pressure leak, possibly a collar leak. Drilled out cement 427'-572'. Took hole deviation surveys and placed man at the shaker to detect evidence of the bit jumping the cement plug in the soft Navajo sand section while drilling cement. Bit weight drilling cement 2,000-4,000#, 45 rpm. Company time - 24 hours.

10-9-61 3798' Drilled out cement and cleaned out to 1100'. Dropped out of cement at 1020', Cement hardness varied, soft to hard stringers below 920'. Hit hard cement at 1095' and drilled to 1100'. Bit weight drilling cement 2,000-4,000#, 50-100 rpm. Bit #28 7-7/8" Security S-4 Reg. 427'-870' (443') - cement 21 hours. Company time - 24 hours.

10-10-61 3798' Pulled up to 1067' to unscrew kelly, mud dropped in hole. Screwed on kelly and found D.P. stuck. Circulated and got mud returns. Worked pipe 1/2 hour and could not get it loose. Put on Hallco pumps and pumped down D.P. 400-1000 psi while working pipe. It would not come loose. Spotted twenty barrels of diesel oil premixed with oil emulsifier (Trimulso) around drill string. Let set 30 minutes. Pulled 116,000# over the weight of the pipe and put Hallco pumps on down D.P. on full pressure, the pipe pulled loose. Cleaned up hole to 1100' and pulled out. Filled hole and the hole stood full. Since the hole took fluid after drilling out to 1100', it was decided to again attempt to squeeze the lower part of the hole. With 4-1/2" D.P. hanging at 933', spotted 116 sacks of cement treated with 3% $CaCl_2$, 200# walnut hulls and 50# gel flake. Pulled six stands and squeezed formation with 18-1/2 barrels. Zone broke down at 340 psi and pressure built to 600 psi while displacing eleven barrels. An additional 3-1/2 barrels were put away at 400-500 psi. After setting twenty two minutes, another four barrels were displaced. The pressures indicated that perhaps an upper zone had broken down. Ran bit and found hard cement at 638'. Finding cement this high up indicated that another zone had broken down. Pressured up hole and hole readily took mud. Pulled out. Ran open end D.P. to 576'. Started loading D.P. with strips of gunny sacks, tree branches and lost circulation material. Bit #29 7-7/8" Hughes OWO-K 870'-1100' (230') - cement 6 hours. Company time - 24 hours.

10-11-61 3798' Completed loading D.P. with strips of gunny sacks, tree branches and lost circulation material. Put in about 120 yards of sacks, 20 bushels of branches and three sacks of fiber and walnut hulls. Closed D.P. rams and squeezed material into the formation. The hole would not hold any pressure for any length of time. The hole was then circulated with 40% lost circulation material in mud. Got very few rags and branches back. Pressured the hole to 200 psi which bled slowly to 50 psi. It was decided to drill out all cement and drill ahead observing the lost circulation

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(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

10-6-61 (Cont'd.) additional lost circulation mud. Got fresh water after pumping thirteen minutes. Circulated out fresh water and got mud returns. Fluid level continued to drop each time pump was shut down. It was apparent that the water entry was above the lost circulation zone. Pulled out of hole and filled hole. Fluid level dropped slowly and hole would not stand full. Called out cementing company for 7:00 a.m., 10-7-61. M.W. 8.7#/gal., V. 45 sec., W.L. 4.2-8.6 cc., F.C. 2/32". Bit #27 7-7/8" Security M4H Jet. 983'-1058' (75') one hour drilling cement, 3737'-3798' (61') 7-3/4 hours. Company time - 11-1/4 hours.

10-7-61 3798' Halliburton arrived 2-1/2 hours late. Ran in with open end D.P. Filled hole and fluid stood at the surface. With D.P. hanging at 1269', pumped in 25 sacks cement treated with 3% HA-5 accelerator. Cement plug in place at 11:06 a.m. W.O.C. four hours. Ran open end D.P. and found cement plug at 1236' (55' lower than calculated). Plug supported 7000# weight. Pulled D.P. up to 990' and circulated briefly. Mud stood at surface. Closed D.P. rams and pumped into well with 200 psi pump pressure. Pressure bled to 0 psi immediately when stopped pumping. Spotted 120 sacks cement treated with 2% HA-5 accelerator, 50# gel flake, and 50# walnut hulls at 990'. Pulled up out of cement. Closed D.P. rams and squeezed formation in stages with 23-1/2 barrels of cement. Final pressure was 825 psi which bled to 0 psi in 33 minutes at 6:54 p.m. Checked all surface equipment for leaks several times during squeezing operations. Found no leaks. Cement was in place at 6:21 p.m. W.O.C. four hours. Ran open end D.P. and found hard cement at 904' (lost circulation zone at 1010'). Cement plug held 15,000# weight. Broke circulation with hole standing full of mud. Closed D.P. rams and pressured hole very slowly to 600 psi and shut-in. Pressure bled to 0 psi in 44 minutes. Noted no surface leaks during pressuring operations. Displaced hole with watery mud to clean hole of thick cement contaminated mud. Company time - 24 hours.

10-8-61 3798' Displaced hole with normal mud including lost circulation material. It was believed that the hole was still taking mud somewhere above 904', evident by the pressure bleed-off. With the D.P. hanging at 900', spotted 120 sacks of cement treated with 25# gel flake and 50# of walnut hulls. Pulled up seven stands, squeezed hole in stages. Could not put away much cement with pressures of 400-1150 psi. Completed job at 7:45 a.m. Pressure bled from 1070 psi to 0 psi in one hour and five minutes. Ran open end D.P. and found soft cement at 641' (58' lower than calculated). Hole was evidently greatly over gauged. Closed D.P. rams and pressure tested hole with 700 psi. Pressure bled to 0 psi in 52 minutes. Since no surface pressure leaks had been noted, it was suspected that there might be a hole in the surface pipe. Since it would be cheaper to test the casing by setting a cement plug up into it, it was decided to do so. With open end D.P. hanging at 636', spotted 100 sacks of cement treated with 3% $CaCl_2$, 25# gel flake and 50# walnut hulls. Had intended to mix 120 sacks to reach well up into the casing, but the cementing hopper got plugged and mixing operations concluded after only 100 sacks were mixed. Pulled D.P. up out of cement. Closed D.P. rams and started squeezing formation. Formation would not break down at

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(Drlg. Log - K.C.L.-SKELLY N. CRESCENT CR. #1-X)

10-11-61 (Cont'd.) problem while carrying 20% lost circulation material in the mud. If the lost circulation zone did not heal up, then consideration was to be given to running 7" casing. Drilled out cement 638'-956'. Company time - 24 hours.

10-12-61 3798' Drilled out cement to 1409' (end of cement). Pulled out. Cleaned pits and mixed up new mud with lost circulation material. Ran in hole and hit bridge at about 1600', could not work through without drilling. Pulled out and stood back spiral drill collars. Ran in hole displacing contaminated mud by stands. Bit weight 4,000-6,000#, 78 rpm. Bit #29 7-7/8" Hughes OWS-R rerun 638'-1409' (771') cement - 23 hours. Company time - 24 hours.

10-13-61 2874' Drilled 7-7/8" hole in sand with shale. Washed and reamed to bottom at 3798'. Lost circulation while drilling at 3805' and while pulling out from 3874'. Had tight hole 8 to 14 stands in hole. M.W. 8.5-9#/gal., V. 37-48 sec., W.L. 8.4-11 cc., F.C. 2/32". Deviation at 3836'-4°, 3868'-4°. Bit weight 25,000-40,000#,78-67 rpm. Bit #30 7-7/8" Hughes OWS-R 3798'-3874' (76') 10-1/2 hours. Lost circ. time - 4-3/4 hours.

10-14-61 3936' Drilling 7-7/8" hole in sand with shale. Reamed tight hole on bottom with bit #31 and #32. M.W. 8.7-9#/gal., V. 41-59 sec., W.L. 5.8-7.6 cc., F.C. 1/32", lost circulation material 25%. Deviation at 3898'-3-3/4°, 3920'-3-3/4°+. Bit weight 30,000-50,000#. Bit #31 7-7/8" Hughes W7 Reg. 3874'-3920' (46') 8-1/4 hours. Lost circ. time - 1-3/4 hours.

10-15-61 3997' Drilling 7-7/8" hole in sand. Reamed hole 150' on bottom. M.W. 8.6-8.8#/gal., V. 51-82 sec., W.L. 6.2-7.2 cc., F.C. 2/32", lost circulation material 24%. Deviation at 3997'-4-1/2°. Bit weight 40,000-50,000#, 65-70 rpm. Bit #32 7-7/8" Hughes W7 Reg. 3920-3951' (31') 5 hours. Bit #33 7-7/8" Hughes W7 Reg. 3951'-3997' (46') 8 hours. Company time - 1-1/4 hours.

10-16-61 4042' Drilled 7-7/8" hole in sand. Twisted transmission shaft out in gear box at end of high gear spline. Broke clutch shaft. M.W. 8.6-8.9#/gal., V. 45-59 sec., W.L. 4.2-6.2 cc., F.C. 2/32", lost circulation material 21%. Deviation at 4026'-5°+, 4042'-5-3/4°+. Bit weight 30,000-45,000#, 40-53 rpm. Bit #34 7-7/8" Security H8 Jet 3997'-4026' (29') 10-1/2 hours. Bit #35 7-7/8" Security H7 Reg. 4026'-4042' (16') 5-3/4 hours.

10-17-61 4042' Stripped shaft out of drawworks. Waiting on parts.

10-18-61 4042' Waited on shaft. Installed shaft. Waiting on additional parts.

10-19-61 4042' Waiting on parts.

10-20-61 4065' Drilling 7-7/8" hole in sand. Repaired drawworks. Ran in hole without any difficulty, hole condition okay. M.W. 8.9#/gal., V. 52 sec., W.L. 4.6 cc., F.C. 1/32". Bit weight 20,000#, 70 rpm.

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(Drlg. Log - KCL-SKELLY N. CRESCENT CR. #1-X)

10-21-61 4132' Drilling 7-7/8" hole in sand and shale. M.W. 8.6-8.8#/gal., V. 53-67 sec., W.L. 4.2-4.8 cc., F.C. 1/32"-2/32", lost circulation material 26%. Deviation at 4068'-5°, 4129'-5-1/2°. Bit weight 30,000-40,000#, 70 rpm. Bit #36 7-7/8" Hughes OWS-R 4042'-4083' (41') 9 hours. Bit #37 7-7/8" Hughes OWS-R 4083'-4132' (49') 12-1/2 hours.

10-22-61 4179' Drilled 7-7/8" hole in sand. Lost circulation while drilling at 4179'. Lost approximately 100 barrels of mud. Pulled up 10 stands and pumped down annulus. Lowered.D.P. and worked while letting mud set for 1/2 hour. Got complete returns. M.W. 8.5-8.9#/gal., V. 49-59 sec., W.L. 2.6-4.8 cc., F.C. 1/32"-2/32", lost circulation material 32%. Deviation at 4161'-6°. Bit weight 20,000-30,000#, 70 rpm. Lost circ. time - 3-3/4 hours.

10-23-61 4232' Drilling 7-7/8" hole in sand. M.W. 8.6-8.7#/gal., V. 48-61 sec., W.L. 2.4-3.6 cc., F.C. 1/32", lost circulation material 23%. Bit weight 25,000#, 70-58 rpm. Bit #38 7-7/8" Hughes OWS-R 4132'-4170' (38') 10-1/4 hours. Bit #39 7-7/8" Security H7W Reg. 4170'-4191' (21') 10 hours. Lost circ. time - 1/2 hour.

10-24-61 4278' Drilling 7-7/8" hole in sand. M.W. 8.5-8.6#/gal., V. 46-60 sec., W.L. 2.4-7.4 cc., F.C. 1/32", lost circulation material 23%. Deviation at 4219'-6°, 4260'-5-3/4°+. Bit weight 25,000-30,000#, 56 rpm. Bit #40 7-7/8" Security H8 Jet 4191'-4243' (52') 16-1/2 hours. Bit #41 7-7/8" Security H7W Reg. 4243'-4260' (17') 7 hours.

10-25-61 4343' Drilling 7-7/8" hole in sand with shale. M.W. 8.6-8.8#/gal., V. 43-55 sec., W.L. 2.6-4.6 cc., F.C. 1/32", lost circulation material 20%. Deviation at 4290'-6°+, 4300'-6°+, 4333'-6°+. Bit weight 20,000-30,000#, 56-60 rpm. Bit #42 7-7/8" Hughes W7R-2 Reg. 4260'-4300' (40') 8 hours. Bit #43 7-7/8" Hughes W7R-2 Reg. 4300'-4333'-(33') 8-3/4 hours.

10-26-61 4394' Drilling 7-7/8" hole in sand. M.W. 8.7#/gal., V. 50 sec., W.L. 3.8-cc., F.C. 1/32", lost circulation material 20%. Deviation at 4353'-6°+, 4384'-6°, 4390'-7°. Bit weight 25,000-30,000#, 56 rpm. Bit #44 7-7/8" Hughes W7 Reg. 4333'-4357' (20') 8-1/4 hours.

10-27-61 4427' Drilling 7-7/8" hole in sand with shale and lime streaks. M.W. 8.6-8.9#/gal., V. 46-55 sec., W.L. 2.6-4.4 cc., F.C. 1/32", lost circulation material 20%. Bit weight 25,000#, 56 rpm. Deviation at 4400'-7°, 4427'+ 7°. Bit #45 7-7/8" Security H7W Reg. 4357'-4390' (33') 8-3/4 hours. Bit #46 7-7/8" Hughes W7R-2 Reg. 4390'-4403' (13') 8 hours. Bit #47 7-7/8" Security H8 Jet 4403'-4427' (24') 9-1/2 hours.

10-28-61 4466' Drilling 7-7/8" hole in sand. M.W. 8.8-8.9#/gal., V. 52-61 sec., W.L. 2.5-4.4 cc., F.C. 1/32"-2/32", lost circulation material 24%. Deviation at 4453'-7-3/4°. Bit weight 25,000-30,000#. Bit #48 7-7/8" Hughes W7R-2 Reg. 4427'-4453' (26') 13 hours.

10-29-61 4532' Drilling 7-7/8" hole in sand. M.W. 8.8-8.9#/gal., V. 44-49 sec.,

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(Drlg. Log - KCL-SKELLY N. CRESCENT CR. #1-X)

11-15-61 (Cont'd.) V. 42-49 sec., W.L. 5-6.4 cc., F.C. 2/32". Deviation at 5714'-11-3/4°. Bit weight 20,000-25,000#, 42-48 rpm.

11-16-61 5804' Drilling 7-7/8" hole in sand, lime and chert. M.W. 9-9.3#/gal., V. 44-47 sec., W.L. 4.9-6.8 cc., F.C. 1/32-2/32". Deviation at 5775'-11°, 5824'-11°. Bit weight 30,000#, 48-45 rpm. Bit #75 7-7/8" Security H8 Jet 5670'-5824' (154') 33-3/4 hours.

11-17-61 5977' Drilling 7-7/8" hole in lime, shale and chert. M.W. 9-9.5#/gal., V. 43-47 sec., W.L. 6-6.8 cc., F.C. 1/32-2/32". Deviation at 5907'-10-3/4°. Bit weight 35,000#, 36-48 rpm.

11-18-61 6057' Drilling 7-7/8" hole in lime, shale and chert. M.W. 9.0-9.1#/gal., V. 43-48 sec., W.L. 6.0-7.6 cc., F.C. 1/32-2/32", lost circulation material 5-12%. Deviation at 5998'-11°, 6032'-11-1/2°. Bit weight 30,000-35,000#, 36-45 rpm. Bit #76 7-7/8" Security H8 Jet 5824'-5998'- (174') 29 hours.

11-19-61 6142' Drilling 7-7/8" hole in lime, shale and chert. M.W. 9-9.1#/gal., V. 42-54 sec., W.L. 4.8-7.0 cc., F.C. 1/32-2/32", lost circulation material 5-12%. Deviation at 6095'-10-3/4°, 6142'-10-1/2°. Bit weight 35,000#, 38-45 rpm. Bit #77 7-7/8" Hughes RC7 Jet 5998'-6142' (144') 35-3/4 hours.

11-20-61 6224' Drilling 7-7/8" hole in lime and chert. M.W. 9-9.1#/gal., V. 43-49 sec., W.L. 4.4-6 cc., F.C. 2/32", lost circulation material 7-15%. Deviation at 6224'-11-1/2°. Bit weight 45,000-50,000#, 50-54 rpm. Bit #78 7-7/8" Security H7W Jet 6142'-6224' (82') 17 hours.

11-21-61 6316' Drilling 7-7/8" hole in lime. M.W. 9-9.1#/gal., V. 43-50 sec., W.L. 4.4-5 cc., F.C. 1/32-2/32", lost circulation material 12-15%. Deviation at 6300'-12°. Bit weight 45,000#, 54 rpm. Bit #79 7-7/8" Security H7W Jet 6224'-6300' (76') 16-1/4 hours.

11-22-61 6445' Drilling 7-7/8" hole in lime, shale and anhydrite. M.W. 9.1-9.2#/gal., V. 47-51 sec., W.L. 4-6 cc., F.C. 2/32", lost circulation material 11-15%. Deviation at 6444'-12-3/4°. Bit weight 30,000-45,000#, 54 rpm. Bit #80 7-7/8" Security H7W Jet 6300'-6397' (97') 14-3/4 hours.

11-23-61 6504' Drilling 7-7/8" hole in lime, shale and chert. Lost 100 barrels of mud while pulling out from 6472'. M.W. 8.9-9.1#/gal., V. 46-58 sec., W.L. 4.6-6.2 cc., F.C. 2/32", lost circulation material 14-24%. Deviation at 6472'-13°, 6501'-12-1/2°. Bit weight 30,000-35,000#, 54-56 rpm. Bit #81 7-7/8" Security H7W Jet 6397'-6472' (75') 14-1/4 hours.

11-24-61 6601' Drilling 7-7/8" hole in lime and shale. Picked up junk sub at 6523'. M.W. 8.9-9.2#/gal., V. 40-50 sec., W.L. 4.8-6 cc., F.C. 2/32", lost circulation material 20-27%. Deviation at 6523'-12-1/4°. Bit weight 35,000-45,000#, 54-55 rpm. Bit #82 7-7/8" Hughes W7R-2 Reg. 6472'-6523' (51') 15-1/4 hours.

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10-29-61 (Cont'd.) W.L. 2.6-3.6 cc., F.C. 1/32", lost circulation material 20-22%. Deviation at 4477'-7-3/4°, 4508'-7-3/4°. Bit weight 25,000-35,000#, 56 rpm. Bit #49 7-7/8" Security M4H Jet 4453'-4477' (24') 11-3/4 hours. Bit #50 7-7/8" Security M4H Jet 4477'-4508' (31') 9 hours.

10-30-61 4670' Drilling 7-7/8" hole in sand with lime. M.W. 8.8-9#/gal., V. 43-51 sec., W.L. 2e3.4 cc., F.C. 1/32", lost circulation material 20%. Deviation at 4574'-7°, 4630'-7-7/8°, 4659'-7-3/4°. Bit weight 30,000-50,000#, 54-68 rpm. Bit #51 7-7/8" Security M4H Jet 4508'-4577' (69') 13 hours.

10-31-61 4748' Drilling 7-7/8" hole in sand with lime. M.W. 8.8-9#/gal., V. 51-59 sec., W.L. 2.6-4.4 cc., F.C. 1/32", lost circulation material 21%. Deviation at 4705'-7°, 4725'-8-1/4°. Bit weight 20,000-30,000#, 56 rpm. Bit #52 7-7/8" Security H7 Jet 4577'-4714' (137') 14-3/4 hours. Bit #53 7-7/8" Security H7 Jet 4714'-4748' (34') 8 hours.

11-1-61 4808' Drilling 7-7/8" hole in sand and lime. M.W. 8.9-9#/gal., V. 50-57 sec., W.L. 2.6-5.7 cc., F.C. 1/32", lost circulation material 20-28%. Deviation at 4755'-8°, 4790'-9°, 4808'-9°+. Bit weight 10,000-15,000#, 54-56 rpm. Bit #54 7-7/8" Hughes W7R-2 Jet 4748'-4808' (60') 13 hours.

11-2-61 4864' Drilling 7-7/8" hole in sand and lime. M.W. 9-9.1#/gal., V. 43-53 sec., W.L. 2.8-4 cc., F.C. 1/32", lost circulation material 20-21%. Deviation at 4853'-9-1/4°, 4860'-10°. Bit weight 10,000-15,000#. Bit #55 7-7/8" Hughes W7R-2 Jet 4808'-4860' (52') 15-3/4 hours.

11-3-61 4914' Drilling 7-7/8" hole in sandy lime. M.W. 8.9-9.1#/gal., V. 45-61 sec., W.L. 2.6-4 cc., F.C. 1/32", lost circulation material 19-20%. Deviation at 4883'-9°. Bit weight 10,000-30,000#, 54-56 rpm. Bit #56 7-7/8" Security H7W Jet 4860'-4891' (31') 14 hours.

11-4-61 4977' Drilling 7-7/8" hole in sandy lime with shale. Ran Schlumberger Directional Survey recording from 4885', drilled depth 4914'. M.W. 8.9-9#/gal., V. 42-48 sec., W.L. 4.2-4.8 cc., F.C. 1/32", lost circulation material 16-20%. Deviation at 4935'-9-3/4°, 4967'-10°. Bit weight 20,000-25,000#, 54 rpm. Bit #57 7-7/8" Hughes W7R-2 Jet 4891'-4914' (23') 5-1/2 hours. Company time - 8 hours.

11-5-61 5051' Drilling 7-7/8" hole in sand and lime. M.W. 8.9-9#/gal., V. 41-47 sec., W.L. 4.2-4.8 cc., F.C. 1/32", lost circulation material 16-19%. Deviation at 4981'-10°+, 4998'-10°+, 5030'-10-1/4°, 5035'-10-1/4°. Bit weight 20,000-30,000#, 54-56 rpm. Bit #58 7-7/8" Hughes W7R-2 Jet 4914'-4981' (67') 13-3/4 hours. Bit #59 7-7/8" Security H7W Jet 4981'-5035' (54') 12-1/4 hours.

11-6-61 5185' Drilling 7-7/8" hole in sand and shale, lime with 40% chert, M.W. 8.9-9#/gal., V. 44-51 sec., W.L. 4.2-5.6 cc., F.C. 1/32-2/32", lost circulation material 12%. Deviation at 5056'-10-1/2°, 5087'-10°, 5118'-9-1/4°, 5143'-9-1/4°. Bit weight 25,000-40,000#, 54-56 rpm. Bit #60 7-7/8" Security H7W

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11-6-61 (Cont'd.) Jet 5035-5143' (108') 14-1/4 hours.

11-7-61 5230' Drilling 7-7/8" hole in lime and chert. M.W. 8.8-9#/gal., V. 44-57 sec., W.L. 4.6-5 cc., F.C. 1/32-2/32", lost circulation material 18-21%. Deviation at 5186'-10°, 5207'-10°. Bit weight 40,000#, 54-56 rpm. Bit #61 7-7/8" Security H7W Jet 5143-5186' (43') 6-1/4 hours. Bit #62 7-7/8" Smith 4W4 Jet 5186'-5207' (21') 7 hours.

11-8-61 5294' Drilling 7-7/8" hole in lime with chert. M.W. 8.9-9#/gal., V. 44-48 sec., W.L. 4.2-4.6 cc., F.C. 1/32-2/32", lost circulation material 15-19%. Deviation at 5231'-10-1/2°. Bit weight 40,000-12,000#, 57-54 rpm. Bit #63 7-7/8" Smith 4W4 Jet 5207-4231' (24') 7-1/4 hours. Bit #64 7-7/8" Hughes W7R-2 Jet 5231'-5283' (52') 9-3/4 hours.

11-9-61 5366' Drilling 7-7/8" hole in lime with chert. M.W. 8.9-9.1#/gal., V. 43-48 sec., W.L. 4.2-7 cc., F.C. 1/32-2/32", lost circulation material 15-20%. Deviation at 5310'-12°, 5326'-12-1/4°. Bit weight 12,000-20,000#, 56-54 rpm. Bit #65 7-7/8" Security H7W Jet 5283'-5326' (43') 13-1/4 hours.

11-10-61 5439' Drilling 7-7/8" hole in lime and sand. M.W. 8.9-9#/gal., V. 43-49 sec., W.L. 4.6-5.6 cc., F.C. 1/32-2/32", lost circulation material 12-19%. Deviation at 5388'-12-1/2°, 5400'-11-3/4°, 5438'-11-3/4°. Bit weight 20,000-40,000#, 54 rpm. Bit #66 7-7/8" Security H7W Jet 5326'-5368' (42') 12-1/2 hours. Bit #67 7-7/8" Security H7W Jet 5368'-5438' (70') 14 hours.

11-11-61 5530' Drilling 7-7/8" hole in lime with anhydrite. M.W. 8.9-9#/gal., V. 49-54 sec., W.L. 4.4-6 cc., F.C. 2/32", lost circulation material 10-12%. Deviation at 5461'-11-3/4°, 5491'-11-3/4°, 5501'-11-1/4°. Bit weight 20,000-35,000#, 56-54 rpm. Bit #68 7-7/8" Security H7W Jet 5438'-5501' (63') 14 hours.

11-12-61 5573' Drilling 7-7/8" hole in lime and anhydrite. M.W. 8.9-9#/gal., V. 47-55 sec., W.L. 5-6.4 cc., F.C. 1/32-2/32". Deviation at 5552'-12°, 5569'-12°. Bit weight 30,000-20,000#, 56-54 rpm. Bit #69 7-7/8" Security H7W Jet 5501'-5552' (51') 11-1/4 hours. Bit #70 7-7/8" Security H7W Jet 5552'-5569' (17') 5 hours.

11-13-61 5645' Drilling 7-7/8" hole in sandy lime, anhydrite and chert. M.W. 9-9.1#/gal., V. 46-53 sec., W.L. 4.6-6.4 cc., F.C. 2/32". Deviation at 5589'-11-3/4°, 5613'-12°, 5645'-12°. Bit weight 20,000-25,000#, 54 rpm. Bit #71 7-7/8" Hughes W7R-2 Jet 5569'-5613' (44') 11 hours. Bit #72 7-7/8" Hughes W7R-2 Jet 5613'-5645' (32') 7-3/4 hours.

11-14-61 5685' Drilling 7-7/8" hole in lime, chert and sand. M.W. 8.9-9#/gal., V. 41-47 sec., W.L. 5.6-7.8 cc., F.C. 1/32-2/32", lost circulation material 12%. Deviation at 5668'-12°, bit weight 30,000-15,000#, 54-47 rpm. Bit #73 7-7/8" Security H7W Jet 5645'-5668' (23') 6 hours. Bit #74 7-7/8" Hughes W7R-2 5668'-5670' (2') 1/2 hour.

11-15-61 5755' Drilling 7-7/8" hole in sandy lime and chert. M.W. 8.9-9#/gal.,

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(Drlg. Log - KCL-SKELLY N. CRESCENT CR. #1-X)

11-25-61 6683' Drilling 7-7/8" hole in lime. M.W. 9-9.3#/gal., V. 45-70 sec., W.L. 4-4.8 cc., F.C. 2/32", lost circulation material 19-25%. Strapped out of hole, corrected well depth 17' from 6700' to 6683'. Deviation at 6623'-10-1/2°. Bit weight 40,000-45,000#, 54 rpm. Bit #83 7-7/8" Security H7W Jet 6523-6623' (100') 20 hours.

11-26-61 6683' T.D. Circulated hole for two hours. Ran Schlumberger Induction Electrical Log recording from 6681', Sonic-Gamma Ray-Caliper from 6675', Continuous Dipmeter from 6680'-3000'. Had considerable problems with logging equipment. Hole stood up o.k.

11-27-61 6683 T.D. Completed logging operations. Ran bit in hole, mixed up mud without lost circulation material. Spotted mud on bottom. DST #1 6600'-6683'. Set dual packers at 6600' at 1:45 p.m. Opened tool for 5 minute initial flow, had weak blow. Shut tool for 30 minute ICIP. Reopened tool for one hour flow test. Had weak blow increasing to strong in 10 minutes, remained strong for the balance of test. No gas to surface. Shut tool for one hour FCIP. Pulled loose without difficulty at 4:20 p.m. Recovered net rise of 2430'of slightly brackish water. Charts indicated the tool operated properly. Pressures at 6580': IHSP - 3139 psi, ICIP - 1920 psi, IFP - 59-301 psi, FFP - 301-1095 psi, FCIP - 1920 psi, FHSP - 3089 psi. Ran drill collars in hole and came out laying down.

11-28-61 6683' T.D. Ran open end drill pipe. Plugged at 6500' with 31 sacks cement, at 4800' with 20 sacks of cement, at 2000' with 20 sacks of cement, at 450' with 40 sacks of cement, at surface with 10 sacks of cement. Last plug in place at 7:00 a.m. Installed marker. Well abandoned as of 11-28-61.